

**IN THE MATTER OF:
ARTIS SENIOR LIVING**

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Before: Lynn A. Robeson, Hearing Examiner

OZAH Case No. CU 15-05
REMAND

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I. STATEMENT OF THE CASE

On September 8, 2015, the Hearing Examiner issued a Report and Decision (*Artis I Decision*) approving a conditional use application filed by Artis Senior Living (Artis or Applicant) to operate a residential care facility for more than 16 persons at 8301 River Road, Bethesda, Maryland, under Sections 59.3.1.2 and 59.3.5.1 of the Zoning Ordinance. In response to testimony from citizens regarding traffic safety issues at the intersection of Carderock Springs Drive, River Road, and the Artis driveway, the Hearing Examiner included the following condition of approval:

15. The Hearing Examiner shall retain jurisdiction of this case to monitor traffic safety issues raised by the opposition, until one year after the facility reaches 90% occupancy. Each year, on the anniversary of the granting of the conditional use, the Applicant must submit to the Hearing Examiner, the Planning Department's Technical Staff and the opposition, accident data for the intersections of River Road/Carderock Springs Drive and River Road/access driveway. The Hearing Examiner asks that the Technical Staff evaluate this data and submit a determination to the Hearing Examiner, within 30 days of the Applicant's data report, as to whether the level and types of accidents shown in the Applicant's reports amount to a dangerous condition compared to other similar intersections in the County. If Technical Staff so concludes, it should submit recommended remedies to the Hearing Examiner. The Applicant must notify the Hearing Examiner of the date the facility reaches 90% occupancy.

Parties opposing the application requested oral argument before the Board of Appeals, contending that the Hearing Examiner erred in two respects. Those in opposition alleged that the Hearing Examiner incorrectly concluded that the application conformed to the *2002 Potomac Subregion Master Plan*. They also argued that the condition listed above did not adequately mitigate the safety issues at the intersection. Exhibits 112-113. After the request was filed, the Board permitted an additional party, Ms. Catherine Titus, to participate in oral argument. Exhibit 114.

After oral argument, the Board of Appeals remanded the case to the Hearing Examiner (Exhibit 125) for further fact-finding on:

...existing traffic safety along River Road and Carderock Spring Drive, and the impact of the proposed use on traffic safety in those areas, including at off-peak hours, and for specific recommendations on possible measures to calm traffic and improve safety in that location, including, but not limited to turn lanes, speed limits, speed cameras or other speed recording devices and crosswalks; and

...the Board requests, to the extent possible, the Hearing Examiner consider this matter expeditiously.¹

OZAH issued a notice scheduling a hearing on the remand for January 28, 2016. To comply with the remand order, the Hearing Examiner requested Staff of the Planning Department to respond to a series of safety concerns voiced by the opposition in *Artis I*. She also requested a representative of the Maryland State Highway Administration (SHA) to attend the hearing and provide additional information on the crash data it submitted. SHA representatives declined to attend the hearing, but did provide additional written information addressing the safety concerns raised in *Artis I*. Both SHA and Planning Staff provided an analysis of whether specific mitigation measures are appropriate. Exhibits 142, 146.

The January 28, 2016, hearing was postponed due to inclement weather.² OZAH rescheduled the remand hearing for February 11, 2016, which proceeded as scheduled. Exhibit 152. Two expert witnesses testified on behalf of Artis, Mr. Michael Lenhart, an expert in traffic engineering and transportation planning, and Mr. Patrick LaVay, an expert

¹ The Zoning Ordinance permits the Board of Appeals to remand a case to the Hearing Examiner for "clarification or the taking of additional evidence, if appropriate." *Zoning Ordinance*, §7.3.1.F.1.c.iv. Because the Board's remand order specifically requests additional fact-finding and recommendations from the Hearing Examiner, the Hearing Examiner's report is not a decision, but a recommendation to the Board.

² Public schools, as well as the Montgomery County government, were both closed on that date due to Winter Storm Jonas. OZAH's inclement weather policy states that hearings will be delayed according to the public school schedule.

in civil engineering. Eight residents of the surrounding community testified against the application due to continuing concerns about traffic and pedestrian safety. The hearing adjourned on February 11th and the record was held open to receive a photograph of a model of the intersection, prepared by Ms. Anne Carlson, used in evidence at the hearing. The photograph was submitted and the record closed on February 22, 2016.

The Hearing Examiner imposed Condition No. 15 in the *Artis I Decision* due to “the lack of specific evidence regarding the impact of the use during non-peak periods, the established pattern of accidents at that location during those periods, the potential for conflicting turning movements, [and] questions whether Artis will or will not exacerbate the queue [behind westbound vehicles stopped to turn left into Carderock Springs Drive]...” *Artis I Decision*, p. 60-61.

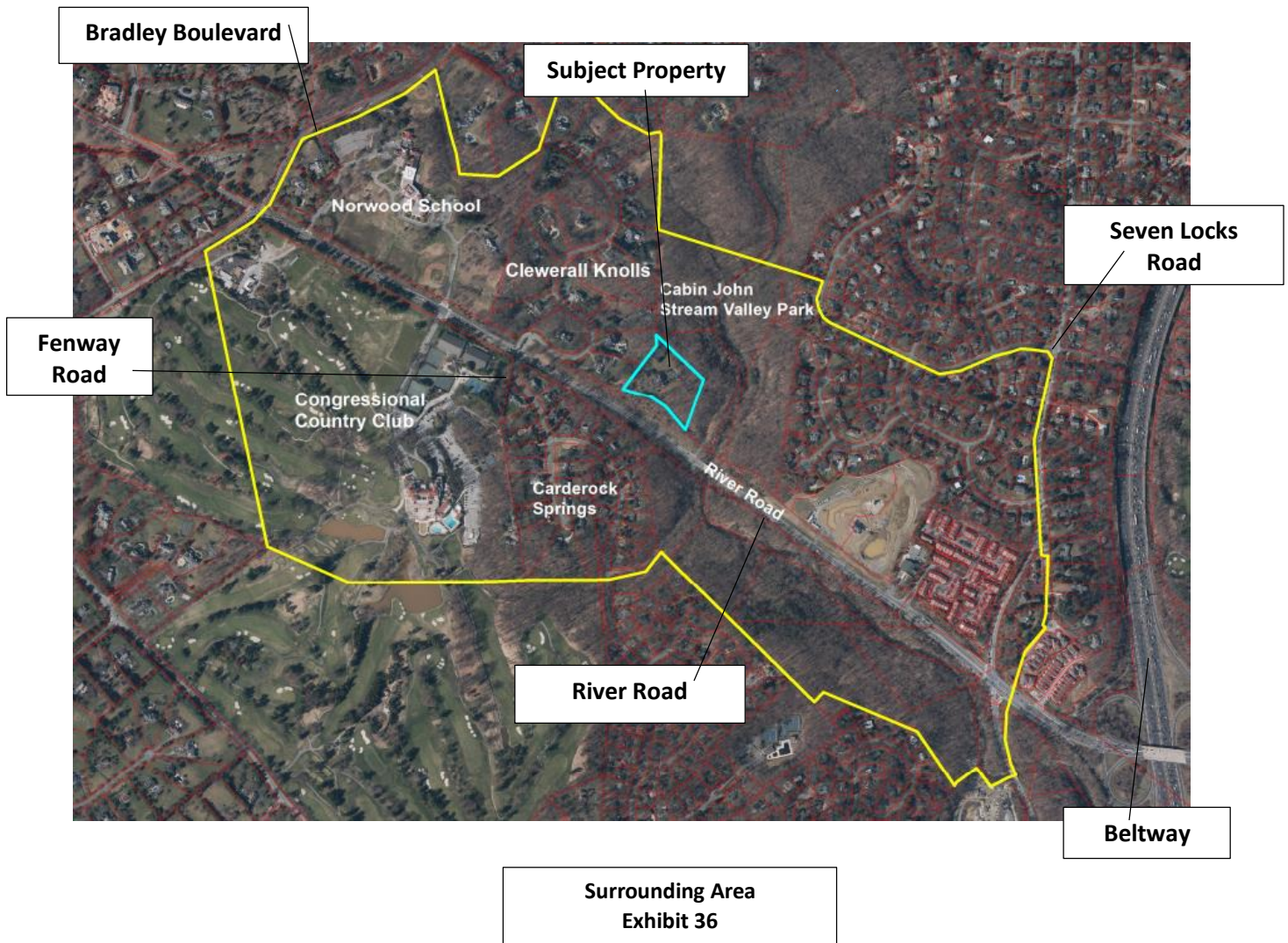
With the additional information submitted on remand, the Hearing Examiner finds that Artis has met its burden of proof that the location of its driveway will not cause undue harm to the health, safety and welfare of the community, as required by Section 7.3.1.E.1.g. Therefore, she recommends eliminating Condition No. 15 from the original decision and approving the application. Because she finds that the Artis facility does not affect the pattern of accidents at Carderock Springs Drive, she also concludes that there is no legal basis on which to impose requirements on Artis to address that problem.

II. FACTUAL BACKGROUND

A. Physical Conditions at the Intersection

The factual background relating to the property and proposed use is included in the *Artis I Decision* and will not be repeated here except when necessary to place the present issues in context. According to the site plan (Exhibit 111), River Road at this location runs

east and west. For this reason, this Report refers to traffic heading away from the Beltway as “westbound” traffic, and traffic heading toward the Beltway as “eastbound” traffic. Aerial views of the surrounding area and the intersection were admitted in *Artis I*, and are shown on the following pages.³



³ Ms. Anne Carlson submitted a model of the intersection with cars that could be manipulated. While the model was quite helpful to the Hearing Examiner to demonstrate the different vehicle movements referenced in the testimony, she does not reproduce it in this report because of unrefuted testimony that it was not to scale and did not accurately represent existing conditions. She does include photographs of the intersection supplied by Ms. Carlson.



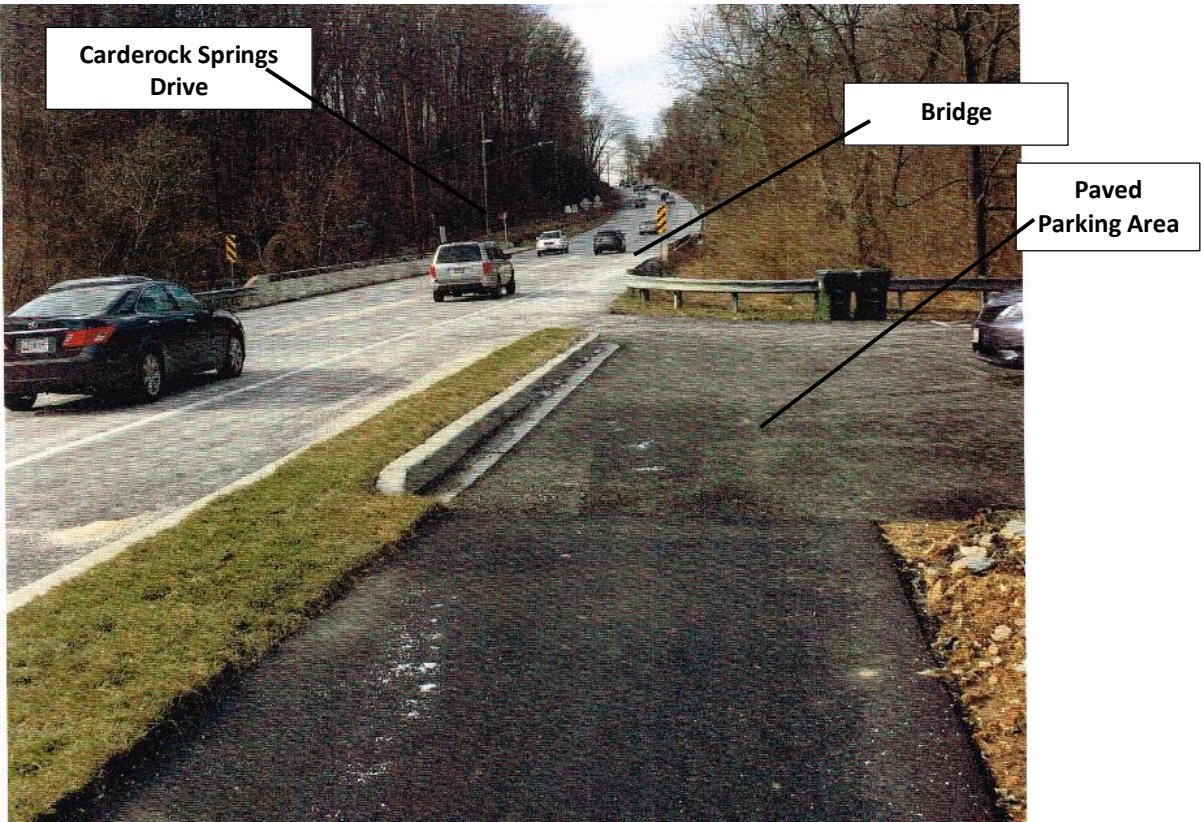
In *Artis I*, the Hearing Examiner found that the location of the driveway was a non-inherent adverse condition associated with the use because environmental constraints and sight distance requirements prevent it from being relocated elsewhere. *Artis I Decision*, p. 57-68. On remand, the parties and agencies provided additional detail on the physical conditions surrounding the intersection.

Artis' driveway intersects with River Road approximately 25 feet west of Carderock Springs Drive. T. 226. The shoulder at that location is approximately 10 feet wide, measuring from the edge of the traveled roadway. T. 186, 193. The terrain where a car would stop to exit the driveway is level. It dips slightly closer to the site. T. 192.

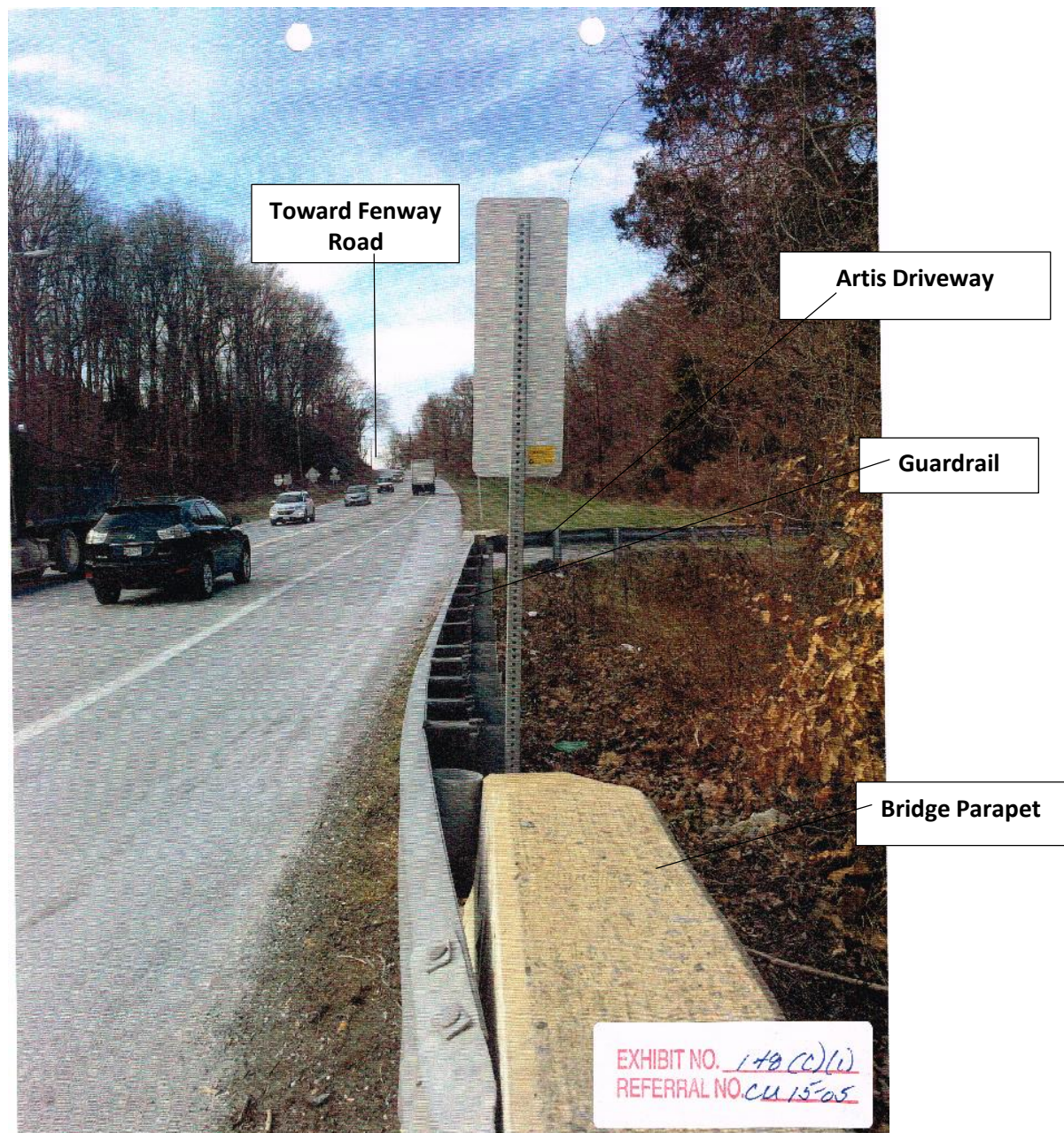
To the east of the driveway, a guardrail extends about 100 feet (on the north side of River Road) to a bridge that crosses Cabin John Creek. A parapet runs along the length of the bridge. A photograph of River Road (from the west side of the bridge looking east) submitted by Ms. Carlson depicts these conditions (Exhibit 148(c)(iii)):



A paved parking area for those using the Cabin John Trail is located east of the bridge. This area was used for parking at the time of the hearing in *Artis I*, but has since been paved. *Artis I Decision*, p. 45; T. 7. The parking area does not have signage. East of the parking area is a new bike path that terminates prior to the bridge. T. 171. Photographs taken by Ms. Carlson show the view from the east side of the bridge looking toward the west (Exhibits 148(b)(ii), and 148 (b)(iii), shown on the next page.)



West of the driveway, River Road slopes upward at approximately an 8% grade towards Fenway Road, which is another entrance to the Carderock Springs neighborhood. T. 195-196. Another photograph taken by Ms. Carlson shows the intersection of the Artis driveway and a view (looking west of the bridge) of the slope up River Road (Exhibit 148(c)(i)):



The community may also be accessed by turning left at the signalized intersection at Seven Locks Road and proceed one-third to one-half mile and turn right onto Lily Stone. T. 26.

SHA advises that there is an existing intersection warning sign on the north side of River Road to alert westbound motorists of the intersection with Carderock Springs Drive. Exhibit 146. Planning Staff reports that bus stops are located on both the north and south sides of River Road immediately west of the Artis driveway and Carderock Springs Drive, respectively. The bus stop on the north side is served by the Ride-On Route 36 and WMATA T-2 lines (Exhibit 142):

Montgomery County Ride-On bus Route 36 and the Washington Metropolitan Area Transit Authority (WMATA) bus Route T2 provide bus service adjacent to the site. Ride-On route 36 is a loop route that starts and ends at the Bethesda Metrorail station. The bus travels along Bradley Road loops down Seven Locks Road and River Road before reconnecting with Bradley Road. It runs Monday through Friday with 30 minute headways. WMATA route T2 connects the Friendship Heights Metrorail station with the Rockville Metrorail station via River Road and Falls Road. The route runs Monday through Sunday with 30 minute headways. There are a few additional buses added during the weekday morning and afternoon commuting periods that increase the headways to 15-25 minutes. The closest River Road westbound bus stop is at the Applicant's driveway.

Staff reports that the closest eastbound bus stop is the one on the south side of River Road next to Carderock Springs Drive. Exhibit 154. This serves only the WMATA T-2 route, which goes from the Friendship Heights Metro station to the Bethesda Metro Station along River Road and returns the same way. Artis' expert in traffic engineering and transportation planning, Mr. Michael Lenhart, testified that the bus stops themselves are ADA compliant, but there are no ADA compliant facilities, such as sidewalks, leading to the bus stops. T. 48, 143.

B. Agency Responses

In response to the remand order, the Hearing Examiner requested SHA and Planning Staff to comment on the safety concerns raised in *Artis I*. She also requested them to identify types of safety measures available to address those concerns and provide their recommendations on whether any measures should be implemented. Exhibits 126, 132. Their responses are summarized below:

1. Rear-end collisions with westbound River Road vehicles waiting to turn left onto Carderock Springs Drive:

Mr. Cedric Ward, Director of SHA's Office of Traffic and Safety, stated in an e-mail that, "The Hearing Examiner's Report at page 43 accurately states that a severity index of 6 is low compared to other intersections in SHA's District 3 (Montgomery and Prince George's County) and indicates that no further evaluation by SHA is needed." Nevertheless, SHA did recognize the "series of rear-end [sic] crashes along westbound MD 190 approaching this intersection." Exhibit 146.

SHA evaluated the sight distance at the intersection of River Road and Carderock Springs Drive. It determined that sight distance is adequate for motorists traveling westbound on River Road to "perceive, react, and stop for motorists that turn left from Carderock Springs Drive." *Id.* SHA found that sight distance for motorists along Carderock Springs Drive looking east is limited when stopped at the stop bar at that location.⁴ The limited sight distance for drivers exiting Carderock Springs Drive is caused by a curve along River Road and the terrain at that location. *Id.*

⁴ The Applicant's expert in civil engineering, Mr. Patrick LaVay, explained that the "stop bar" is the white line on the roadway indicating where motorists should stop before leaving the intersection. T. 207.

When asked whether traffic from the senior living facility would exacerbate the pattern of rear-end collisions by increasing the queue behind vehicles waiting to turn left into Carderock Springs Drive, Planning Staff responded (Exhibit 142, p. 3):

The queue associated with vehicles turning left from River Road onto Carderock Springs Drive would not be increased with the proposed development because this is not a turning movement [necessary] to either access the Artis development or to leave the development to access the road network. It is not reasonable to ask the Applicant to address any queueing issues, whether they are real or perceived, associated with a turning movement which they do not exacerbate and for which the turning movement has no bearing on the proposed use.

According to Maryland Vehicle Law, vehicles should not drive on the shoulder unless they are pulling over for an emergency. If vehicles are using the shoulder to pass to the right of a vehicle turning left from River Road to Carderock Springs Drive, this is a violation of the law. The Applicant submitted sight distance sheets that showed there is adequate sight distance from the driveway to access River Road. No such sheets were submitted to address the question of “is it possible to see that a car is stopped to turn left with more cars in the queue?”. [sic] It is staff’s opinion that if a car is stopped on River Road with an appropriate turn signal on to turn left onto Carderock Springs Drive, then a trailing vehicle should be able to see it. This would seem to be a reasonable conclusion; otherwise, SHA would need to evaluate and possibly restrict left turns from River Road to Carderock Springs Drive. It should be further noted that according to SHA the intersection [the Artis driveway] meets all of their guidelines and the American Association of Stat Highway and Transportation Officials (AASHTO) guidelines, which includes measures for safety.

a. Mitigation

To mitigate the pattern of accidents with cars waiting to turn left onto River Road, SHA states that it will install another intersection warning sign on the south side of River Road directly opposite the existing sign on the north side. The sign will consist of a symbolic “T” intersection with a plaque stating “Carderock Springs Drive.” The installation takes approximately 60 days to complete, weather and scheduling permitting. Exhibit 146, p. 2.

SHA reviewed the geometry of the intersection of River Road and Carderock Springs Drive to determine the feasibility of installing a left turn only lane for vehicles traveling

westbound on River Road making a left turn onto Carderock Springs Drive. It concluded that a separate westbound turn lane “is not a feasible option at this time,” citing the intersection’s proximity to the stream and bridge and the overall terrain. SHA suggested that it would be more feasible to address the crash pattern by prohibiting westbound left turns at Carderock Springs Drive. Exhibit 146, p. 2. SHA will not undertake this option, however, unless it receives some level of support from the community. *Id.*

2. *Speeding:*

SHA performed “comprehensive” speed studies in both directions at the intersection of Carderock Springs Drive and River Road (Md. Route 190.) Exhibit 146, p. 1. SHA studies are performed during non-peak hours (between 10:00 a.m. and 2:00 p.m.), on a mid-week day, and during clear weather conditions. These conditions are intended to ensure the studies capture speeds that are not affected by heavier commuter traffic or other conditions that impede free flow. *Id.*

SHA considers speeds acceptable if the 85th percentile speed is within 10 miles per hour of the posted speed limit, because the road is designed to accommodate traffic going faster than the posted speed. The 85th percentile is the speed “at or below which 85 percent of motorists drive when unaffected by slower traffic or poor weather...” *Id.* The posted speed limit on River Road is 40 miles per hour.

Based on its speed studies, SHA concluded that “speeding was not observed to be an issue along the subject segment of MD 190.” *Id.*

a. Mitigation

Planning Staff, who consulted with SHA on this case, states that, “SHA will not arbitrarily lower the speed limit of any road” without evidence that speeds are unsafe.

Exhibit 142, p. 2. Again, this is because roads are designed for specific speeds and functions. SHA's standard for roadway design incorporates safety standards. Roads are designed to ensure that there is adequate sight distance for a driver to stop without colliding with a stopped vehicle. Planning Staff pointed out that the function of River Road is that of a major highway, consistent with the *2000 Master Plan for the Potomac Subregion*. *Id.*

SHA was silent on whether speed control measures should be implemented, apparently because their study did not demonstrate that speeding did not cause safety issues. Nevertheless, it explained that the segment studied does not meet SHA requirements for installation of speed control devices. Speed bumps are not permitted on State highways. Speed cameras are permitted only on roads with posted speed limits of 35 miles per hour or less or within designated school zones. *Id.*

Planning Staff commented (Exhibit 142, p. 2):

Staff cannot say whether speed controls could enhance safety at this intersection. It is likely that some control could slow vehicles down but that does not inherently mean that the Carderock Springs/Artis driveway intersection, or any intersection in the County, would be safer. However, as stated above, speed control devices are limited. The Montgomery County Police Department could monitor traffic and help enforce the speed limit on this section of the road, but that is not likely to occur very often due to other competing needs of the County. The Applicant can implement speed control devices on the property they own, but not in the public right-of-way without the approval of SHA.

3. *Pedestrian/cyclist conflicts:*

Staff responded that they were not "made aware" of any actual conflicts between pedestrians and vehicles at this location. Exhibit 142. Staff pointed out that Ride-On Route 36 does not require a pedestrian to cross River Road because of the route's "loop" configuration. Exhibit 142. Therefore, there is transit access to the site without having pedestrians cross River Road.

The Hearing Examiner asked Staff to comment on whether cars using the shoulder to pass vehicles waiting to turn left into Carderock Springs Drive would conflict with pedestrians/cyclists using the shared pathway in front of the property. Staff responded (Exhibit 142, p. 4):

The shared use path should not conflict with any vehicle movements. The shoulder will still exist. The Applicant will construct the shared use path along a majority of their frontage behind the shoulder. Where the shared use path ends, the Applicant has proposed to return it back so that it meets up with the shoulder, which is where bicyclists and pedestrians may travel when there is no parallel facility adjacent to the road for them to use. Even still, bicyclists are lawfully allowed to use the road and it is SHA's policy to accommodate bicyclists within the roadway, which is typically done on the shoulders.

a. Mitigation

After consultation with SHA, Staff did *not* recommend that a crosswalk be installed at this location because it increases the danger to pedestrians. Staff stated that crosswalks create a "false sense of security" that traffic will stop, causing pedestrians to lower their guard against oncoming traffic. *Id.* Staff reported that crossing River Road at this location is not illegal because it is an intersection. *Id.*

The Planning Department also stated that signalization measures, which include installing flashing yellow lights to alert motorists that a pedestrian is crossing the road, are not typically used at locations like this one. According to Planning Staff, a signalized crosswalk is typically installed in two situations. One is a mid-block crossing where the distance between intersections is relatively long. The other is a location with heavy pedestrian activity and a busy road with many vehicles. In Staff's opinion, "[t]his would not seem to apply to the Artis case." Exhibit 142. Planning Staff also advised that a request for

a signalized intersection with crosswalks, requires a warrant analysis and the signal here “probably would not be warranted.” *Id.*

C. Artis’ Response to Remand

1. Safety Issues

Because many of the opposition’s safety concerns relate to specific possible scenarios, Artis’ testimony and evidence relating to general safety concerns is included separately here; evidence refuting the potential for collisions caused by specific turning movements is in Part II.E of this Report.

Mr. Lenhart testified that he conducted a speed study (Exhibit 140(a)) independent of SHA’s study, for westbound traffic on River Road at the intersection of Carderock Springs Drive and the Artis driveway. He conducted the study in response to anecdotal testimony in *Artis I* that high speeds in that area contributed to the pattern of accidents and generally created safety problems. They conducted the study in off-peak times when traffic flowed freely. T. 12-13.

According to Mr. Lenhart, speeding is not a safety issue at this location. The posted speed limit on that segment of River Road is 40 miles per hour. The average vehicle speed is 43 miles per hour. The median speed, which 50% of the range of speeds observed, was 42 miles per hour. The 85th percentile speed was 49 miles per hour. The 85th percentile speed is the operating or design speed. The “design speed” is the speed designed to ensure adequate stopping distance. Because roads are designed for speeds higher than the posted speed limit, it is normal for speeds reported to be slightly higher than the speed limit. Roads are not designed for top speeds; they are designed to accommodate the majority of the travelling public. If one design for 100% of the public, roads would be overdesigned, would

cost more money, and would possibly increase speeds. T. 228. When he was employed by SHA and during his 15 years in the private sector, he conducted many speed studies and almost 100 percent of the time the 85th percentile comes within 10 miles an hour of the posted speed limit. T. 10-12.

Mr. Lenhart testified that there are large gaps in traffic on River Road created by the light at Seven Locks Road. When doing the speed study, he observed that gaps in traffic during off-peak hours were even larger, describing them as “huge.” T. 22-23. His speed study took into account activity from both the bike lane and parking area east of the bridge. T. 36.

Mr. Lenhart opined that the Artis driveway will not exacerbate the identified pattern of collisions with westbound River Road vehicles waiting to turn left onto Carderock Springs Drive. In his opinion, the turning movements are unrelated. Westbound traffic will be slowing to turn right into the driveway, lessening the chance for rear-end accidents. Vehicles making the right-hand turn into the Artis driveway would not be travelling at speeds of 45 to 49 miles per hour. Once they reach the driveway, they may immediately turn right waiting for a gap in traffic. T. 18-19. Traffic going eastbound on River Road will be turning left *before* westbound River Road vehicles turn left onto Carderock Springs Drive.

The crash data submitted by SHA (Exhibit 67(b)) demonstrated a pattern of accidents in which vehicles waiting on River Road to turn left onto Carderock Springs Drive were rear-ended. The severity index of this particular intersection is low compared with other comparable intersections in District 3, which includes Montgomery and Prince George’s County. Because the index is low, SHA determined that no further study is necessary. He explained that SHA doesn’t just look at one road; they review comparable roads within the

District. For instance, signalized intersections are compared with other signalized intersections, interstates are compared with other interstates, and two-lane roads are compared with other two-lane roads. The index is weighted by frequency and severity of the accidents. Personal injury damage is weighted higher than property damage. Fatalities result in much higher indexes. T. 14-15. SHA annually reviews the crash data and factors in the volume of traffic on the road as well as the frequency of accidents. Without factoring in the volume of traffic, one could have a single accident on a farm road and have a 100% severity index. T. 223.

Mr. Lenhart testified that accidents that are “fender benders” (i.e., where both cars can drive away) are not reported or included in SHA’s crash data. Because this is the policy across the Board, failure to report these types of accidents would not change the severity index. In addition, if more frequent but less severe accidents were reported, this could actually improve the severity index because it is heavily weighted toward personal injury and/or significant property damage. T. 17-18.

Mr. Lenhart opined that the slight offset between the driveway and Carderock Springs Drive does not create or increase safety issues. The peak periods of traffic in and out of residential neighborhoods are during the morning and evening peak hours. They have scheduled staff shifts outside those times. The traffic volume from Carderock Springs Drive is relatively low during off-peak times and traffic generated by Artis will be lower than that. The large gaps in traffic will enable vehicles to exit the facility and Carderock Springs Drive. Residential traffic from Carderock Springs Drive and traffic from the facility are very low-intensity uses compared with many other locations. T. 22-25.

Mr. Lenhart testified that the slight offset on opposite sides of a main roadway does not always create safety issues. The foremost safety concern when roads are offset is whether traffic on River Road (the main line) can move freely and people can get on and off the road. As an example, he testified that if the Artis driveway was located *east* of Carderock Springs Drive, the queue for vehicles waiting to turn left at Carderock Springs Drive would block those trying to turn left from the Artis driveway. Because the Artis driveway is offset to the *west* of Carderock Springs Drive, eastbound left turns from the driveway and westbound left turns from Carderock Springs Drive do not conflict with traffic on River Road. T. 58.

Mr. Patrick LaVay, Artis' expert in civil engineering, testified that his office conducted a sight distance survey of the Artis driveway in March, 2015, in accordance with AASHTO and SHA standards. The standards require measurement of both intersection sight distance and stopping sight distance at the driveway. These two measurements are different. Id.

Measurements for both stopping and intersection sight distances were taken from a point 15 feet away from the edge of the traveled roadway and five feet to the left of the center line of the driveway. This represents the position of a driver in a vehicle waiting to exit the Artis drive. T. 187.

Stopping sight distance is the distance needed for the driver of a vehicle to perceive, react and stop before colliding with an object. The required distance is measured from 2 feet above the ground, which is designed to represent any object, whether a vehicle or a ball. From that point, you measure how far you can see an object that is 3½ feet above the road. T. 187. For this intersection, the required stopping site distance is 425 feet based on the

design speed of the road (i.e., 50 miles per hour). The actual stopping sight distance is 780 feet for left turns out of the sight and 1,310 feet for right turns out of the sight. T. 187.

The intersection sight distance is longer than the stopping sight distance because it takes into account not just an object sitting in the road. Rather, it factors in the additional time needed to pull out of the driveway and accelerate on the roadway without making other cars slow down. Because it accounts for more actions, it is more conservative than stopping sight distance. If intersection sight distance is sufficient, stopping sight distance will be acceptable as well. T. 186.

The required intersection sight distance for left turns from the driveway is 555 feet. The measured sight distance is 1,320 feet. Right turns require a minimum site distance of 480 feet. The measured sight distance for right turns is 780 feet. T. 187-188.

The shoulder at this location is 10 feet wide, measured from the edge of the traveled roadway. Because the measuring point for both sight distances are taken 15 feet from the edge of the traveled roadway, cars sitting outside the shoulder (further from the road) can see the measured distances. T. 191. Cars waiting to exit the driveway will be able to see both cars on River Road and cars using the shoulder to pass westbound traffic. T. 190.

Mr. Lenhart disagreed with the arguments of those in opposition stating that SHA did not look at the impact of the proposed development on the intersection. SHA has already indicated that it will grant an access permit, which includes a review of stopping and intersection sight distance. SHA indicated that the intersection meets all SHA and AASHTO standards, which include safety measures. T.68, 224. In addition, he opined that the pattern of rear-end accidents at Carderock Springs Drive is unrelated to traffic entering and exiting the facility, as described below.

2. Mitigation

According to Mr. Lenhart, SHA was “pretty adamant” that they did not want a crosswalk for pedestrians at this location. T. 28. SHA felt that a crosswalk would actually reduce pedestrian safety by giving a false sense of security to pedestrians. Without a crosswalk, pedestrians currently have more than sufficient sight distance to safely cross the road. There are adequate gaps in traffic for them to cross the road. The onus, however, is on the pedestrian to make sure they are aware of traffic in both directions. When a crosswalk is installed, many pedestrians will walk in front of cars without even looking because they think that cars will stop. In addition, installation of a crosswalk at low volume locations like this one desensitizes drivers to the possibility of pedestrian crossings. After passing through an empty crosswalk many times, motorists will begin to assume that no one will be crossing the road. T. 30-31.

Mr. Lenhart reiterated that SHA suggested that restricting westbound left turns at the intersection could mitigate the pattern of accidents at that location. There are two other options for entering the neighborhood. One is to turn left at the signalized intersection at Seven Locks Road and proceed one-third to one-half mile and turn right onto Lily Stone. Westbound River Road traffic may also continue one-quarter mile past the intersection and turn left on Fenway Road. T. 26.

Mr. Lenhart testified that mitigation measures suggested by those opposing the application were either not necessary or unlikely to be approved by SHA. He opined that warning signs, such as “Do Not Drive On the Shoulder,” were unnecessary because there is sufficient stopping and intersection sight distance for vehicles using the shoulder. Mr. Lenhart did not believe that SHA would permit rumble strips on the edge of the road because

they are typically used on highways to keep drivers from dozing off or alert drivers to an approaching stop. This intersection does not fit into either scenario. T. 240. Mr. Lenhart further opined that a reduction in the speed limit is not appropriate because the design of the road and its function as an arterial highway. This is particularly true because neither speed study reflects that speeding is a problem. T. 242.

Mr. LaVay opined that a service drive in front of the Artis facility cannot be constructed because of the steep grade in the SHA right-of-way that rises north toward the subject property. The same grade prevents the bike path from extending the entire length of the SHA right-of-way in front of the property. A retaining wall would be required to construct the bike path along the western portion of the right-of-way. SHA does not permit retaining walls within the right-of-way. T. 195-196.

D. Opposition's Safety Concerns

1. Safety Issues

Those opposing the application raised concerns about potential dangers for pedestrians, motorists and cyclists in the area. Specific scenarios raised are described in Part II.E of this Report along with Artis' response to each. The Hearing Examiner also requested those opposing the application to supply any suggestions they had to address their concerns.

Many of those opposing the application feel there is too much going on along this segment of River Road for the intersection to be negotiated safely. They rely on several physical conditions to support this argument. The westbound lanes of River Road transition from two lanes to one lane between Seven Locks Road and Bradley Boulevard. This segment also includes new housing developments, the paved parking lot for the Cabin John Trail, a new bike lane ending just east of the bridge, this intersection, the intersection of

Clewerwall and Fenway Road, and the intersection at Congressional Country Club and the Norwood School. T. 171. Cyclists traveling west over the bridge will have to merge onto the shoulder, and vehicles may exit the parking area for the Cabin John Trail, the Artis driveway, and Carderock Springs Drive. Pedestrians may attempt to cross the road from the bus stop on the south side. T. 91-93, 137-138 171-173.

Ms. Suzanne Lee believes that the proposal will affect not just Carderock Springs, but thousands of people who use this heavily-trafficked segment of River Road. She felt that the SHA analysis failed to look at the impact of additional traffic from the proposed development. The fact that SHA suggested a new sign on the south side of River Road is further indication that SHA hasn't looked at the impact of the Artis driveway on the north side of River Road. T. 86-90.

Some of those in opposition felt that Artis' speed study demonstrated that the majority of drivers exceed the speed limit at that location and do not understand SHA's policy limiting the use of speed cameras to roads that are 35 miles per hour or less or in school zones. Ms. Carlson felt that speed cameras could be installed because of the site's proximity to the Norwood School. T. 87. Without additional safety measures, some felt that the community will have to suffer the consequences of traffic from the Artis facility.

Ms. Sandy Vogelgesang testified that the intersection will be a safety challenge for employees and visitors to the Artis facility and residents of Carderock Springs. It will be unsafe for those using or visiting the facility because eastbound traffic turning left into the facility will face the same problems as westbound traffic turning left onto Carderock Springs Drive. In her opinion, the speed study performed by Mr. Lenhart shows that speeding is a problem because 61% of the vehicles are travelling at speeds higher than the posted speed

limit, 31% are travelling at speeds more than 45 miles per hour, and 14%, or one in seven, are going 50 miles per hour or faster. Mr. Lenhart testified at the original proceeding that the eastbound morning vehicle count outside the peak hours is 630 vehicles per hour. If 14% of those vehicles are travelling at 50 miles per hour or greater, 88 vehicles per hour or one every 41 seconds is travelling at those speeds. When the Stoneyhurst or Quarry Springs development opens, the number of vehicles speeding through this intersection will be even higher. T. 162. Mr. Lenhart's traffic study reports only on westbound traffic. She believes that eastbound traffic will be going faster because of the long downhill from Fenway Road, making left turns into the Artis driveway more difficult. As a result, the report understates the speeds of vehicles. T. 161-162.

Ms. Guest expressed concern that the proposed shift changes are incompatible with bus schedules and pose a danger for drivers on River Road. She does not believe that shift changes occur at the exact times scheduled because there is overlap. Turnover between shifts may last 30 minutes. If an employee fails to show up at the scheduled time, someone may not be leaving at the exact time the shift ends. The same is true for employees that call in sick. *Id.*

She also feels that the impact of the Artis facility on River Road has been greatly minimized in Artis' traffic statements. The traffic statement predicts only 2 trips in the morning and 4 trips in the evening peak hours. A memo from Council staff to the PHED Committee in 2013 states that LATR numbers come from a traffic study completed in 1989 that has not been changed. *Id.* The trip generation numbers used in Artis's study are outdated in her opinion. In another application by Artis for a 72-bed facility, Artis calculates that there would be 13 morning peak hour and 21 evening peak hour trips. She believes,

however, that the total number of daily trips are more meaningful. The total daily number of trips would be 198, if not limited to peak hours, which results in 198 opportunities to have problems at this intersection. T. 154. For a 64-bed facility, the total trips would be reduced to 175. T. 154.

Ms. Carlson agreed with Mr. Garcia's statement (in *Artis I*) that left turns from the driveway and Carderock Springs Drive potentially conflict with each other because the two are offset. Vehicles exiting both drives to get on River Road may easily collide even if they are going different directions, particularly because Mr. Lenhart's speed study found that the majority of drivers exceed the 40 mile per hour speed limit. T. 86-87.

She also disagreed with Planning Staff's statement that no one made them aware of any pedestrian/vehicle conflicts. She testified before the Planning Board that "employees and visitors using buses to reach the proposed Artis facility will risk their death crossing the road." T. 87. She believes that it makes no sense to build the Artis facility because it will put more pedestrians at risk because they will have to cross the road. Motorists will be more at risk because they will have to avoid the pedestrian. T. 86.

Ms. Carlson believes that, in *Artis I*, Planning Staff incorrectly advised that the shoulder at this location could be used to avoid stopped vehicles waiting to turn left onto Carderock Springs Drive. Planning Staff now says that Maryland law prohibits using the shoulder in this manner unless there is an emergency. In practice, numerous vehicles use the shoulder regularly to avoid westbound traffic on River Road stopped to make a left turn into Carderock Springs Drive. T. 86-90.

Ms. Carlson also feels that the intersection will be more dangerous because elderly drivers will be visiting the Artis facility. Ms. Carlson stressed that reaction times of older

drivers is slower than younger adults and they drive more slowly as well. While she is not a traffic engineer, she worked in the auto safety industry for 15 years. Their bones are more brittle as well. It's easy to imagine an older person coming to visit a spouse or a friend and being killed or badly injured as they pull out of the Artis driveway. This could be caused by misjudging the speed of eastbound motorists descending the steep hill to the west or westbound traffic following the "straightaway" from the Beltway will slow for vehicles turning into Carderock Springs Drive. She urged that we not wait for fatalities to act responsibly. She does not believe that we should court death by making the intersection more complicated and by bringing many more vehicles in and out, including staff, visitors, delivery trucks, trash trucks, clergy, and medical and other service providers. She believes that the project is dangerous and should not be approved. T. 94-95.

Mr. Nothman testified that the crash data from SHA shows seven rear-end crashes, injuring five people, over 5 years. Projected over 30 years, the injury rate translates into 50 people injured over 30 years. If one adds a single injury per year, the total over 30 years increases to 80. Adding additional complications to the intersection could increase the injury rate by one a year. T. 113. The neighborhood has about 400 homes and five entrance points. In his opinion, the focus should be on how many injuries occur per households using the entrance. If there are eighty households per entrance, one additional injury per year would yield one injury per household over the next 30 years. He questions how dangerous this intersection needs to be in order to be considered a threat to community safety. T. 114.

Mr. Nothman further testified that, according to traffic experts he knows, roadways that are offset cause problems. He could not find a drawing in the record that showed the

full intersection. In his opinion, Artis has the burden of preparing a drawing showing the entire intersection so that SHA can properly evaluate its. T. 130.

2. Mitigation

Several individuals testified that the application should not be approved without installing a left turn lane for Carderock Springs Drive. Most other new developments approved on River Road have a left turn lane. T. 85-86.

Many disagreed with SHA's proposal to restrict westbound left turns from River Road into Carderock Springs Drive because neither of the two alternative access points are safe. Ms. Carlson felt that this was only shifting the problem up to Fenway Road, which according to her, has limited sight distance. Shifting access to Seven Locks Road/Lilly Stone Drive would badly clog the River Road/Seven Locks intersection with vehicles turning left. T. 91-93. Some felt it unfair that left turn lanes should be restricted into their community because of the Artis facility. T. 97-98. Ms. Carlson felt that it is not a "nice gesture" to the community to force them to drive out of its way on a regular basis to avoid entering the neighborhood from Carderock Springs Drive. In fact, she testified, it would be "cruel and unusual punishment" to her neighborhood for raising concerns about the impact of the Artis facility. T. 93. Currently, the severity index for the intersection is low. The Artis project could significantly increase the index if serious injuries and deaths occur as more pedestrians use the bus to cross River Road. Id.

Ms. Carlson testified that in the first proceeding, she suggested moving the Artis further west to avoid conflicts with Carderock Springs Drive. She also suggested adding a traffic light, installing speed cameras, mandating a lower speed limit, creating a well-marked crosswalk, and constructing left turn lanes. Better signage could include a sign indicating

that the shoulder should not be used. She believes that there is room for a left-hand turn lane if SHA really wanted to do it. T. 183. If none of these measures can be installed, she believes the application should be rejected. T. 184.

Ms. Carlson and Mr. Nothman both feel that the warning sign to be installed by SHA will not be enough to decrease the pattern of accidents caused by left turns into Carderock Springs Drive because of the number of competing movements in the area. T. 86-90. Mr. Nothman testified that the SHA recommendation is for a “T” intersection sign, even though it’s not a “T” intersection. It’s a combination of two “T” intersections. In his opinion, the intersection’s current risk level is very close to requiring intervention. SHA’s consideration of a left turn lane implies that if additional complexity is added to the intersection, it will be more dangerous. For his community, this is an adverse impact. The facility will have an adverse impact on the Carderock community if left turn lanes into community are restricted at this location. T. 139.

Mr. Nothman believes that the best mitigation for the pattern of accidents would be a dedicated left turn lane for westbound traffic on River Road. Even though SHA says it doesn’t have the money, he believes that the developer should pay the cost. T. 132. To avoid accidents between westbound River Road traffic using the shoulder and cars coming out of the Artis driveway, he believes that the bridge should be widened so sight lines are not impeded. The other solution is to align the driveway and Carderock Springs Drive further from the bridge. T. 133-134.

Other suggestions for mitigation included installing rumble strips on the sides of River Road, striping a pathway from the bike path east of the bridge extending along the shoulder to help bicyclists, reducing the speed limit, and installing a service drive in the SHA

right-of-way in front of the subject property. T. 172, 194, 240, 241. Ms. Carlson believes that SHA could lower the speed limit within its guidelines because of the site's proximity to Norwood School. T. 87.

E. Potential Scenarios

There were several specific scenarios that triggered most of the safety concerns. These concerns are summarized below, along with Artis' response.

1. Rear-end collisions with westbound vehicles on River Road waiting to turn left onto Carderock Springs Drive.

a. Opposition Concerns: Those opposing the application raised concerns in *Artis I* that adding additional traffic to this intersection will exacerbate the pattern of rear-end collisions. Mr. Nothman stated that he has pulled away a few times to avoid an accident when making a westbound left from River Road because he keeps his eyes in his rear view mirror and sees if the driver behind is going to hit his car. Even though he regularly does this, he has been hit once. T. 115. Ms. Carlson submitted a photograph of an accident that occurred at that location (Exhibit 148(g)(ii), shown on the next page).

b. Artis' response: Mr. Lenhart opined that the Artis driveway will not exacerbate the pattern of rear-end collisions with westbound vehicles turning left onto Carderock Springs Drive because the turning movements are unrelated. Westbound traffic will be slowing to turn right into the driveway, lessening the chance for this type of crash and slowing the speeds of westbound vehicles because vehicles will be slowing to turn. Once they reach the driveway, they may immediately turn right without waiting for any gap in



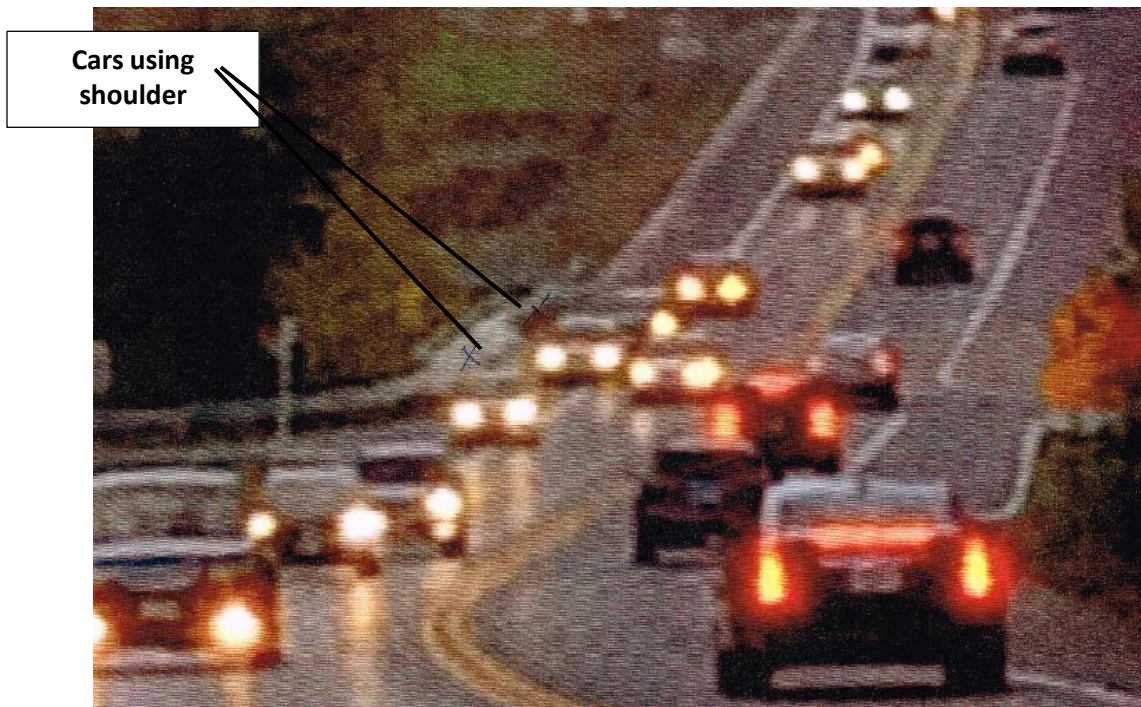
Exhibit 148(g)(ii)

traffic. T. 18-19. Vehicles eastbound on River Road turning left into the subject property will not conflict with this crash pattern because the offset requires them to turn before the intersection with Carderock Springs Drive. T. 56.

2. The “T-Bone” Scenario--Westbound traffic on River Road using the shoulder to pass vehicles waiting to turn left onto Carderock Springs Drive.

a. Opposition Concerns: Ms. Carson and Mr. Nothman both have witnessed westbound traffic on River Road use the shoulder to pass cars waiting to turn left onto Carderock Springs Drive. T. 90, 94, 98-99. Ms. Carlson submitted a photograph showing vehicles using the shoulder (Exhibit 148(f)(iii), on the next page). Several of those in opposition believe that vehicles using the shoulder avoid cars waiting to turn left into Carderock Springs Drive will collide, or “T-Bone,” with cars waiting to exit the Artis driveway.

Mr. Nothman believes that a vehicle in the Artis driveway waiting to turn left would have to edge out toward River Road in order to see oncoming westbound traffic. According to him, motorists exiting the driveway can see eastbound traffic easily (looking to the west),

**Exhibit 148(f)(iii)**

but cannot see westbound traffic coming over the bridge because the bridge parapet blocks their view. T. 117-118. He doesn't think that westbound River Road vehicles have time to see a vehicle in the Artis driveway. When he is stopped waiting to make the left into Carderock Springs Drive, he must spend a lot of time looking in his rearview mirror to make sure nothing hits him in the rear. According to Mr. Nothman, motorists will have only one or two seconds to decide to go around the vehicle waiting to turn left and then cut back to the correct lane. He believes that this maneuver will cause the worst "destruction" because cars using the shoulder may "T-Bone" (i.e., hit the passenger side of) cars in the Artis driveway. This is particularly true because there will be so much more traffic using the Artis driveway. He believes it will lead to fatalities. T. 121-122.

b. Artis' Response: Mr. LaVay opined that, because the intersection site distance is well above the amount required to be able to see vehicles approaching on River Road,

vehicles exiting the Artis driveway will be able to see cars both on River Road and cars using the shoulder. T. 190-191. The shoulder extends 10 feet from the road and sight distance is measured from a point 15 feet from the edge of the road. A vehicle exiting the driveway will be able to sit outside the shoulder and still see the oncoming traffic. T. 190. In his opinion, the stopping sight distance addresses the possibility that vehicles exiting the driveway might creep into the shoulder. Stopping sight distances at this location is more than required to enable vehicles to stop in time to avoid a collision. T. 208-209. Mr. Lenhart acknowledged that he observed vehicles using the shoulder when he conducted the speed study. Because of the parapet and other conditions, however, most of those vehicles moved at speeds between 10 and 20 miles per hour. As intersection and stopping sight distances are based on the design speed of the road (i.e., 50 miles per hour), both vehicles (on the shoulder and in the driveway) will be able to see each other with more than sufficient time to react and stop. T. 229.

Nor does the bridge parapet block the ability of vehicles exiting the facility to see oncoming traffic as assumed by Mr. Nothman. Vehicles can see above both the guardrail (which is approximately 18-inches high) and the parapet. The only thing that will be allowed in the sight line is vegetation below 18-inches in height. T. 193. He testified that River Road widens west of the bridge and the guardrail twists away from the road. That may have been intentional construction to ensure sufficient sight distance. T. 206.

Mr. LaVay pointed out that the offset between the driveway and Carderock Springs Drive actually helps to prevent this scenario because it gives vehicles using the shoulder more time to return to the road. T. 212-213.

3. Eastbound River Road traffic turning left into the Artis facility.

a. Opposition Concern: Ms. Carlson and Mr. Nothman expressed concern that vehicles traveling east on River Road down the incline between Fenway Road and the Artis driveway will not be able to stop to make a left turn into the driveway without being rear-ended. Ms. Carlson believes that this is particularly true because cars will gain speed going downhill and many drivers these days are distracted. T. 85-86, 97-98, 127. She believes that people will not expect someone to stop at the bottom of a steep hill. T. 97-98. Ms. Sandy Vogelgesang testified that she believes eastbound vehicles on River Road turning left into the Artis facility will face the same problem as westbound vehicles stopped to turn left onto Carderock Springs Drive.

b. Artis' response: Artis pointed out that sight distance for vehicles in Artis' driveway is well above the minimum required and will be able to see vehicles waiting to turn left into the Artis facility far in advance. Mr. Lenhart testified that he was at that location to do his speed study, and he had no reason to believe that eastbound traffic behaved differently than westbound traffic. While there is a downhill grade to the west of the intersections, he did not observe that this made a significant difference in vehicle speeds. He also testified that the 8% grade of River Road west of the driveway is very common in this area. T. 195. He noted that there were still significant gaps in which motorists could make turning movements. T. 34-35.

4. "Double Left Turns:" Left turns from Artis driveway and Carderock Springs Drive.

a. Opposition Concern: Mr. Nothman testified that another dangerous scenario could occur if there is a vehicle in the Artis driveway and a vehicle in Carderock Springs Drive both turning left at the same time. T. 123. According to him, one cannot see the turn

signal for the vehicle in the driveway from Carderock Springs Drive. He has experienced this movement and does not agree that vehicles may use their blinkers to signal their intent. Because these two intersections are not aligned, it is necessary to know where the car across the road intends to go because there is only a small gap in traffic. He questions whether people will know to apply the rules of the road (proceed in the order of arrival) at this location because the driveway and road are offset. T. 123-124. Vehicles cannot follow the rules of the road and pass on their right (with their passenger sides facing each other.) T. 128. T. 123-128.

b. Artis' Response: In Mr. Lenhart's opinion, eastbound left turns exiting the Artis driveway do not conflict with left turns from Carderock Springs Drive more than at any other intersection. The rules of will apply to vehicle turning movements. If there is one car at the intersection, those on the side street must wait for a gap in the traffic to make the left-hand turn. If there are cars at both intersections, the first car to arrive at the intersection goes first. T. 20.

He also opined that the probability of this type of collision is low because the peak periods of traffic in and out of residential neighborhoods are during the morning and evening peak hours. Artis has scheduled staff shifts outside those times. The traffic volume exiting Carderock Springs Drive is relatively low during off-peak times and traffic generated by Artis will be lower than that. T. 20-25. The probability of collisions is lower still because turning movements to and from Carderock Springs Drive are mostly left in (from River Road) and right out (from Carderock Springs Drive), rather than left turns. T. 58.

Mr. Lenhart opined that the signal at Seven Locks Road creates very large gaps in the traffic during peak, which are even larger during off-peak hours, enabling both drivers

to make the left turns. Residential traffic from Carderock Springs Drive and traffic from the facility are very low-intensity uses compared with many other locations. T. 22-25.

5. Right turns out of Carderock Springs Drive and left turns out of the Artis driveway.

a. Opposition Concerns. Mr. Nothman believes that the offset between the two driveways will cause accidents between vehicles turning right out of Carderock Springs Drive and vehicles turning left from the Artis driveway. Gaps in eastbound River Road traffic will be available to vehicles in the Artis driveway first. Because the car turning right from Carderock Springs Drive cannot see the turn signal of the car turning left, the car turning right may not see a vehicle entering eastbound River Road from the Artis driveway. T. 125-126.

Ms. Margit Meissner testified that she was almost hit by a vehicle exiting the Artis driveway when she was turning right from Carderock Springs Drive onto River Road. She was waiting on Carderock Springs Drive to turn right onto River Road. She watched the traffic to the west, which was coming at “great speed.” T. 108. Ms. Meissner testified that she began to turn right when traffic was clear, but, “at the very second” she turned right, a car came out of the Artis driveway and almost hit her. If she hadn’t had the presence of mind to accelerate, the car would have hit her. She was surprised to have the car coming out of the driveway because it was offset. If the intersection was aligned, she would not have been surprised. T. 108.

b. Artis’ Response: Mr. Lenhart testified that a car traveling east on River Road at 49-50 miles per hour can cover 70 feet per second. The gap between the Artis driveway and Carderock Springs Drive is approximately 25 feet. At that rate of speed, a car can cover the distance between the Artis driveway and Carderock Springs Drive in approximately $\frac{1}{3}$ of a

second. T. 226. That is not sufficient time for the car in the Artis driveway to make any significant movement into the intersection or overtake the vehicle turning right from Carderock Springs Drive. In his opinion, this would not occur even if both vehicles were to exit the driveway and Carderock Springs Road at the same time. T. 226-227.

6. Pedestrians crossing River Road.

a. Opposition Concern: Ms. Carlson expressed concern that vehicles will not stop for pedestrians crossing the road without a cross walk. In *Artis I*, according to her, Artis stated that many of its employees will use buses to get to and from work, lessening the need for parking spaces. If employees take the WMATA T-2 eastbound, they would have to cross River Road during gaps of speeding traffic, possibility in darkness. Ms. Carlson testified that two shift changes will occur before daylight or after dark at 6:00 a.m. and 10:00 p.m. According to her, the Ride-On bus route doesn't get to the Artis driveway in time for the 6:00 a.m. or 10:00 p.m. shifts, it doesn't operate on weekends, and it isn't considered a priority route. T. 86.

Ms. Linda Guest testified that the bus schedules do not support Artis' claim that 50% of the employees will arrive by bus because the bus schedules don't coordinate with shift changes. According to her, Ride-On Route 36 does not arrive until 6:45 a.m. and it ceases service at 7:50 p.m. She reiterated that it does not operate on weekends. The WMATA T-2 line stops close to the 6:00 a.m. shift during the weekdays, but does not stop at the Artis facility until 7:25 a.m. on weekends. On weekends, the T-2 stops service at Friendship Heights at 7:25 p.m. and at Rockville at 8:04 p.m. She believes that the weekend shift has no way to arrive unless they arrive very early. T. 151. Ms. Guest also expressed concern for employees that use public transit because there is only one dim street lamp at Carderock

Springs Drive and no crosswalk. She questioned whether employees would have to stand in the shoulder. T. 155-156.

Ms. Vogelgesang disagreed with SHA's assessment that not having a crosswalk at that location is safer than installing a crosswalk. She believes that pedestrians crossing from the south side of River Road will be at great risk from vehicles exceeding the speed limit without a traffic light, a median, or even a crosswalk. T. 164.

b. Artis' Response: According to Mr. Lenhart, SHA was "pretty adamant" that they did not want a crosswalk for pedestrians at this location. T. 28. He agreed that a crosswalk should not be installed at this particular location for the reasons stated by Planning Staff and SHA, summarized in Part II.B.2 of this Report. In his opinion, pedestrians currently have more than sufficient sight distance to safely cross the road and there are adequate gaps in traffic to do so. The onus, however, is on the pedestrian to make sure they are aware of traffic in both directions. T. 30-31.

Mr. Lenhart concluded that disabled pedestrians are unlikely to cross the road at that location because there are other travel options available and there are no ADA compliant facilities leading to the bus stop on the south side of the road, such as a sidewalk. For this reason, it would be unusual for the disabled in adjacent communities to use the bus stop because of this. T. 219. Even if a disabled individual were to cross the road from the bus stop on the south side, there are sufficient gaps in traffic for them to cross safely.

III. FINDINGS OF FACT AND CONCLUSIONS OF LAW

A. Standard of Review

The Board's remand asked for further information on traffic safety to determine whether the application met the standards of §59.7.3.1.E.1.g for approval of a special exception:

- g. [The proposed development] will not cause undue harm to the neighborhood as a result of a non-inherent adverse effect alone or the combination of an inherent and a non-inherent adverse effect in any of the following categories:
 - i. the use, peaceful enjoyment, economic value or development potential of abutting and confronting properties or the general neighborhood;
 - ii. traffic, noise, odors, dust, illumination, or a lack of parking;
or
 - iii. the health, safety, or welfare of neighboring residents, visitors, or employees.

In *Artis I*, the Hearing Examiner concluded that location of the driveway, driven by unusual environmental constraints and sight distance requirements, was a non-inherent site characteristic triggering this standard. Based on the evidence submitted by the State Highway Administration, the Planning Department and the parties on remand, the Hearing Examiner finds that the weight of evidence supports the conclusion that the Applicant has met this standard. Therefore, she recommends removing Condition No. 15 from the *Artis I* decision and renumbering the remaining conditions accordingly in Part V of this Report.

As stated in the *Artis I Decision*, the existence of a non-inherent site condition has never meant that an application must be denied. *Artis I Decision*, p. 58. Rather, it triggers additional analysis to determine whether the non-inherent characteristic would result in undue harm to the neighborhood.

In conditional use (formerly special exception) cases, courts distinguish between testimony and evidence based on the potential *possibility* of harm and evidence proving a *probability* of harm. A possibility of harm cannot be the basis to deny a conditional use. *See, Miller v. Kiwanis Club of Loch Raven, Inc.*, 29 Md. App. 285, 296 (1975) (Fears that are only possibilities, rather than probabilities, cannot justify denial of a special exception); *Anderson v. Sawyer*, 23 Md. App. 612, 618 (1974) (“...unsupported conclusions of witnesses to the effect that a proposed use will or will not result in harm amount to nothing more than vague and generalized expressions of opinion which are lacking in probative value.”)

Artis must prove that the non-inherent characteristic will not cause undue harm by a “preponderance of the evidence.” *Zoning Ordinance*, §59.7.1.1. This standard “...means to prove that something is more likely so than not so...a preponderance of the evidence means such evidence which, when considered and compared with the evidence opposed to it, has more convincing force and produces in your minds a belief that it is more likely true than not true.” *Mathis v. Hargrove*, 166 Md. App. 286, 310 (2005), *quoting*, *Coleman v. Anne Arundel County Police Dept.*, 369 Md. 108, 127 n. 16 (2002). In this case, Artis has met this standard.

B. General Concerns

The Applicant, SHA, and Planning Staff have provided expert opinion and objective data to demonstrate that traffic from the proposed facility will not cause undue harm. The best concrete data in the record includes (1) the engineer’s sealed certification that sight distance for the driveway is acceptable (Exhibit 83), (2) SHA’s statement that sight distance for the driveway is adequate (Exhibit 67), and (3) the speed studies conducted by SHA and

Artis. Exhibit 140, 146. Significantly, the Applicant's evidence and expert testimony is consistent with the information provided independently by SHA, the agency responsible for the operation of State roads.

In contrast, the testimony and evidence from those opposing the application focus on scenarios that are *possible*, but there is little concrete or objective evidence that they are *probable*. The major generalized concern is that there are so many movements going on along this stretch of River Road that the intersection can bear no more activity. Movements mentioned are reduction in lanes on River Road, the end of a bike path east of the bridge, the parking area at Cabin John Trail and pedestrians crossing River Road. Many of these conditions already existed in *Artis I* and there is no evidence in this record that these movements caused crashes or injuries. While the parking area for Cabin John Trail was not paved at the time, there was evidence that the area was used for Trail parking. *Artis I Decision*, p. 59.

One change from conditions existing in *Artis I* is the installation of a new bike path east of the bridge. The opposition argues that the termination of the new bike path is another dangerous movement added to the intersection. There is no evidence to support this. Prior to installation of the bike path east of the bridge, cyclists had to use the shoulder along this segment of River Road and there is no evidence that accidents occurred because of this. As westbound cyclists now have a dedicated path before they have to proceed on the shoulder as before, it could be said that the new path is an improvement over pre-existing conditions. Certainly, there is no probative evidence that cyclists will not be able to negotiate the merge back onto the shoulder over the bridge and then back onto the pathway in front of Artis'

property. Unsupported statements that this will occur cannot form the basis to deny a conditional use.

Another change cited by those opposing the application is the addition of new housing developments east of the Artis facility. The Hearing Examiner notes that, while these may add traffic volume to River Road, the new developments have dedicated left turn lanes to avoid delaying or conflicting with through traffic. The left turn lane mentioned in testimony is for Stoneyhurst Quarry development, which has 10-15 times the volume of traffic as Carderock Springs Drive. There is no evidence to support the proposition that additional traffic volume on River Road, in and of itself, will create or exacerbate dangerous conditions at this intersection. This is particularly true where, as here, both speed studies demonstrate that vehicle speeds within SHA and AASHTO standards and there are large gaps in traffic flow.

As to the speed studies, the Hearing Examiner disagrees with Ms. Vogelgesang's conclusion that 88 vehicles per hour, or one every 41 seconds, will be exceeding the speed limit in off-peak hours. Ms. Vogelgesang based her calculation on the assumption that traffic volumes were 630 vehicles per hour. The speed study does not reflect that 630 vehicles per hour pass that stretch during the period studied (i.e., between 2:00 p.m. and 3:00 p.m.) Rather, the total vehicle count of westbound vehicles for the hour studied was only 100 vehicles. Of that total, 14 vehicles were above the design speed of the road. The Hearing Examiner can only conclude that the 630 number comes from the peak hour traffic volumes on River Road that were submitted in *Artis I*. The evidence demonstrates, however, that peak hour traffic moves more slowly than non-peak hour traffic, which is one reason why speed studies are performed in non-peak hours. To juxtapose 14% of vehicles traveling

during non-peak hours onto peak hour volumes is comparing apples and oranges. Even if the 630 vehicles does not come from peak hour traffic studies, there is no basis in the record to assume that 530 vehicles in one hour will be traveling eastbound when only 100 are traveling east. Ms. Vogelgesang's calculation of the vehicles passing per second also ignores Mr. Lenhart's testimony that there are very large gaps in traffic during non-peak times.

There is no evidence to support the opposition's testimony that SHA failed to analyze the impact of the proposed development on the intersection. SHA reviewed and approved the site distance in *Artis I* and indicated that they would approve an access permit. In addition, both Planning Staff and Artis's experts conclude that traffic to and from the Artis facility is unrelated to the pattern of rear-end collisions at Carderock Springs Drive. The Hearing Examiner finds this conclusion substantiated by the fact that westbound vehicles traveling on River Road may make an unrestricted right turn into the Artis driveway and eastbound vehicles will be turning left before reaching Carderock Springs Drive. She also finds reasonable the conclusion that westbound traffic on River Road may improve the existing crash pattern because those vehicles will be slowing to make a right turn.

Those opposing the application made no showing, other than conclusory statements, that intersections where two access points do align perfectly will create safety issues solely on that basis. The only probative evidence in this record is to the contrary. Artis presented expert testimony that offset intersections are not preferred because they may block vehicles getting on and off the main road. Artis's experts also indicated that this will not be the situation at this intersection because the driveway is to the west of Carderock Springs Drive. This means that any queue behind a car waiting to turn left will not interfere with traffic exiting the Artis' facility.

While the parties did not focus on this issue on remand, those opposing the application did raise concerns that traffic using the shoulder to go around vehicles on River Road waiting to turn left onto Carderock Springs Drive would conflict with pedestrians and cyclists using the bike path along Artis' frontage. There is no evidence to refute Planning Staff's conclusion that there will be no conflicts because the shared pathway is outside of the shoulder. The Hearing Examiner so finds.

C. Potential Scenarios

1. Rear-end collisions with westbound River Road traffic waiting to turn left into Carderock Springs Drive.

The most probative evidence that this section of River Road is unsafe is the pattern of rear-end collisions with vehicles westbound on River Road waiting to turn left into Carderock Springs Drive. SHA recognized this pattern on remand. The Hearing Examiner finds that the pattern does exist, even though the severity of accidents is relatively low in relation to other comparable intersections within Prince George's or Montgomery Counties.⁵

While the Hearing Examiner's understands the community's frustration with this pattern, as already stated, there is *no* probative evidence in the record that traffic to and from the Artis facility will contribute to or exacerbate that pattern. The crash data consists almost entirely of rear-end collisions with vehicles heading westbound on River Road and turning left onto Carderock Springs Drive.⁶ As already stated, the Hearing Examiner finds that the traffic movements reflected in the crash data are unrelated to traffic to and from the

⁵ Because the Hearing Examiner finds that traffic to and from the Artis facility will not contribute to or cause these accidents, she does not feel that more information on how SHA interprets the crash data is necessary.

⁶ All of the accidents but one reported by SHA were rear-end collisions with westbound vehicles turning left onto Carderock Springs Drive. The one that was not a rear-end collision was an accident caused by a vehicle on Carderock Springs Drive hitting a lightpole, which the Hearing Examiner did not credit toward establishing the major pattern. *Artis I Decision*, p. 41, fn. 4.

residential care facility. The gaps in traffic are large enough to accommodate vehicles in the Artis driveway and Carderock Springs Drive to make simultaneous left turns. There is no evidence to support denying the conditional use based on the existing pattern of accidents.

2. The “T-Bone” Scenario--Westbound traffic on River Road using the shoulder to pass vehicles waiting to turn left onto Carderock Springs Drive.

Much has been made about the possibility that westbound cars will use the shoulder to pass cars waiting to turn left onto Carderock Springs Drive and collide with, or “T-Bone” a car waiting to exit the Artis driveway. Planning Staff responds that it is illegal to use the shoulder. The Hearing Examiner finds this rationale unpersuasive in light of Ms. Carlson’s photographs showing cars actually using the shoulder and Mr. Lenhart’s testimony that he observed cars using the shoulder when he was there conducting the speed study.

Where this argument fails, however, is that there is no probative evidence that cars using the shoulder will more likely than not collide with a car exiting the Artis driveway. Mr. Nothman testified at length of the probability that this would occur, but assumed that the bridge parapet and/or the guardrail would block the view of cars in the Artis driveway and cars travelling on River Road. Mr. LaVay provided expert opinion that the bridge and guardrail would *not* block the view of these motorists, including drivers using the shoulder on River Road. His opinion is consistent with the sight distance worksheet and evaluation submitted in *Artis I* and with SHA’s determination that sight distance for the driveway meets SHA standards. Exhibits 67, 83. Mr. Nothman’s fear that cars exiting the driveway must creep onto the shoulder is unsubstantiated in light of the testimony that sight distance measurements are taken from outside the shoulder, further from the traveled roadway and that vehicles in the driveway will be able to see westbound traffic using the shoulder. Even if a car does creep onto the shoulder, there is no evidence to refute Mr. LaVay’s testimony

that the stopping sight distance is more than adequate to avoid a collision. Nor is there evidence to refute Mr. Lenhart's observation that cars using the shoulder go at much lower speeds than the speed limit, thereby extending the stopping sight distance (which is based on the design speed of the road.)

Mr. Nothman also posits that accidents are likely because of the "split second" available for a car to make the decision to pass on the shoulder, leaving the driver no time to stop for a vehicle in the shoulder. This argument, again, is addressed by the fact that there is more than adequate intersection and stopping distance. In addition, there is no evidence to refute Mr. LaVay opinion that the 25-foot offset actually mitigates the danger from cars on the shoulder because they have more time to return to the road before reaching Artis driveway.⁷ Because Mr. LaVay conducted an actual sight distance study at that location, and much of Mr. Nothman's testimony incorrectly assumed that the bridge parapet blocked the view of drivers, the Hearing Examiner finds that this "T-Bone" scenario too speculative to deny the conditional use.

3. Eastbound River Road traffic turning left into the Artis facility.

Those in opposition testified that the slope of the hill traveling eastbound on River Road from Fenway Road will cause vehicles to speed and distracted drivers will fail to see a car turning left into the Artis facility. Others expressed fear that the pattern of rear-end collisions with westbound cars waiting to turn left onto Carderock Springs Drive will be repeated for eastbound traffic turning left into the Artis facility.

The Hearing Examiner finds no probative evidence to support this assertion. Mr. Lenhart testified that the slope is approximately 8%, which is relatively common in this area.

⁷ While somewhat blurry, the Hearing Examiner notes that photograph of cars using the shoulder (Exhibit 148(f)(iii), on page 24) appears to show a car returning to the shoulder prior to the Artis driveway.

While Mr. Lenhart's speed study was limited to westbound traffic, he observed that speeds of eastbound vehicles were similar. Further, SHA's "comprehensive" speed study was conducted in both directions. Both found that speeds on this segment of River Road do not present a safety issue under SHA's standards. Mr. Lenhart further testified that, based on his observation of the intersection, the light at Seven Locks Road creates large gaps in traffic, particularly during off-peak hours. The intersection sight distance for eastbound cars turning left into the Artis driveway is slightly over 1.6 times the minimum required.⁸ The record does not support the assertion that vehicle speeds will prevent eastbound cars on River Road from stopping for a vehicle turning left into the Artis driveway.

As to the possibility of distracted driving due to texting, this is a scenario that could happen anywhere and one unrelated to the location of the driveway. The only evidence that people will be "surprised" when vehicles stop at the bottom of the hill to turn left into the driveway is the single statement from Ms. Carlson. While one cannot rule out the possibility that someone texting will rear-end someone turning left into the Artis driveway, the evidence does not support a finding that this is more probable than not *because* of the Artis facility.

4. *"Double Left Turns:" Left turns from Artis driveway and Carderock Springs Drive.*

Several witnesses expressed concern that the 25-foot offset between the Artis driveway and Carderock Springs Drive will cause collisions when one vehicle is turning left from the Artis driveway and another vehicle is turning left from Carderock Springs Drive. According to Mr. Nothman, drivers will not know how to negotiate the intersection if they cannot see the turn signal of the other vehicle and because these turning movement cause drivers to cross with the left sides of the vehicles (i.e., the driver's side) facing each other.

⁸ Mr. LaVay testified that the minimum intersection site distance for left turns from eastbound River Road into the Artis driveway is 480 feet. The actual intersection sight distance 780 feet ($780/480=1.625$). T. 188.

The Hearing Examiner does not find this argument compelling because there is no evidence that this movement is illegal or cannot be made safely. Mr. Lenhart testified that vehicles would apply the “rules of the road” for any unsignalized intersection—cars proceed in the order they arrive at the intersection. Significantly, nothing in the record indicates that vehicles on opposite sides of River Road cannot see each other. Even if, as Mr. Nothman testified, one cannot see the turn signal of a car in the Artis driveway, the rules of the road are not dependent on turn signals because they dictate that the first car to the intersection proceed first.

The testimony and evidence here demonstrates that the intersections are aligned primarily to ensure free movement of vehicles on and off the main road. The offset here does not restrict that movement. In fact, the offset provides a benefit to those using the shoulder to avoid a car waiting to turn left onto Carderock Springs Drive because it gives those cars additional time to return to the roadway before the driveway intersection.

In addition, both experts testified that traffic volumes were low at this intersection, reducing the likelihood that accidents will occur. The Hearing Examiner finds credible Mr. Lenhart’s testimony that most cars will exit Carderock Springs Drive in the morning and evening peak hours as that is typical for the peak hour. She also finds credible the testimony that most turning movements from Carderock Springs Drive are right turns onto River Road and left turns into the community. Traffic from the Artis facility will avoid the heaviest volume of cars exiting Carderock Springs Drive because employee shifts are scheduled outside these hours.

More important than the lower volume of traffic, there is nothing in the record to support a conclusion that two vehicles in the “Double Left Turn” scenario cannot make

complete their turns safely. Combined with evidence of the large gaps in traffic and the fact that speeds on River Road are within SHA standards, the Hearing Examiner cannot find that the offset between the two intersections will, more probably than not, result in unsafe conditions under this scenario.

5. Right turns out of Carderock Springs Drive and left turns out of the Artis driveway.

Those in opposition believe that there will be collisions between vehicles turning left (eastbound) from the Artis driveway and vehicles turning right (also eastbound) from Carderock Springs Drive. The basis for this assertion is that vehicles exiting the Artis driveway will be able to enter gaps in traffic on River Road before those waiting to turn right on Carderock Springs Drive and overtake the vehicle from Carderock Springs Drive. Mr. Lenhart's testimony that it would take less than 1 second for a car eastbound on River Road to travel the distance between the Artis driveway and Carderock Springs Drive is unrefuted. It is also a mathematical calculation based on the speed of the vehicle and the distance between the driveway and Carderock Springs Drive. Mr. Lenhart assumed that vehicle speeds would be between 40 to 49 miles per hour, consistent with the speed study. From this evidence, Mr. Lenhart's opinion that a car exiting the Artis driveway will not have enough time (in less than a second) to enter the gap in eastbound traffic first, catch up to and collide with a car turning right from Carderock Springs Drive is well substantiated.

Ms. Meissner testified that a car exiting the driveway almost collided with her when she turned right out of Carderock Springs Drive. She also testified, however, that she did not expect a car to exit the driveway. She believes that this is because the driveways were offset. While the Hearing Examiner understands Ms. Meissner's position, there is nothing in the record indicating that vehicles on opposite sides of River Road cannot see each other

at this location. Whether two roads are aligned or not does not relieve drivers from being aware of conditions surrounding the intersection.

6. Pedestrians crossing River Road.

Ms. Carlson contends that Artis represented that many of its employees would take transit to work, thereby lessening the need for parking spaces. She believes that pedestrians attempting to cross River Road from the south side (from the WMATA T-2 stop) will be in danger of being hit by speeding vehicles.⁹

This concern is limited to the T-2 line. There is very little objective evidence of how many employees and visitors will use that line, particularly because they may take Ride-On Route 36 without having to cross River Road. Testimony from the opposition that transit schedules do not coincide with employee shifts and that service is significantly reduced on weekends only supports a conclusion that there will be fewer employees using either bus route. Mr. Lenhart testified that disabled members of the surrounding community would be unlikely to use the eastbound T-2 line because there are no accessible connections to the stop, even though the bus stop themselves are ADA compliant. There was extensive testimony and evidence in *Artis I* that the bus stop on the north side of River Road will have an ADA compliant pathway to a stopping point in the driveway where they may wait to be picked up and taken to the facility. *Artis I Decision*, pp. 16-19. It is reasonable to conclude that disabled visitors to the facility will be more likely than not to use the Ride-On Bus Route 36 to access the property. Even if they do use the eastbound T-2 line, there is no evidence

⁹ The Hearing Examiner notes that the evidence from *Artis I* reflects that Artis is providing *more* than the required number of parking spaces on-site. *Artis I Decision*, p. 68. While this doesn't eliminate the possibility that someone will take transit, and in particular, the T-2 line, it does suggest that fewer, if any, would be forced to use transit due to lack of parking.

that pedestrians do not have the ability to cross River Road safely—both bus stops are existing conditions and there are no reports of safety problems in the record.

The number of people that will cross the road, while it reduces the *probability* that something will happen, is not as important in deciding this issue as the safety of those that may cross the road. Both SHA and Planning Staff recommend against installation of a sidewalk to *protect* pedestrians that cross the road. SHA advises that pedestrians crossing within a crosswalk are not as alert to oncoming traffic because they feel the crosswalk provides protection. Mr. Lenhart testified that motorists who repeatedly drive through a crosswalk without encountering pedestrians become desensitized to the need to stop. SHA is the entity charged with the operation of State roads and this rationale is reasonable, particularly here where the evidence demonstrates there are large gaps in traffic permitting pedestrians to cross and low volumes of pedestrians, which may desensitize drivers to the need to stop.

D. Mitigation

Those in opposition believe that Artis should be required to pay for a left-turn lane on River Road for those turning left onto Carderock Springs Drive. The weight of the evidence, however, supports a finding that traffic to and from the Artis facility does not cause and will not affect the existing crash pattern, except possibly to improve the situation by slowing traffic. Under Maryland law, Artis cannot be required to install a left turn lane when its proposed use does not contribute to or cause the dangerous condition. *Howard County v. JJM, Inc.*, 301 Md. 256, 282 (1984) (There must be a reasonable nexus between a mandated road improvement and the impact of proposed use.) Because the evidence demonstrates that Artis traffic will not exacerbate the pattern of crashes, questions as to whether a left turn lane

should be installed or whether left turns should be restricted must be left to a forum outside of Artis' conditional use application.

The Hearing Examiner does not recommend additional mitigation measures because there is no probative evidence in the record that these are needed. Several of the mitigation measures explored are not within the control of the applicant. If there was sufficient evidence to establish that there are safety problems other than the pattern of rear-end collisions, the Applicant's inability or SHA's refusal to install these measures could justify denial of the conditional use. That is not the case here.

The Hearing Examiner has no reason to disagree with SHA's determination that a crosswalk at this location would *increase* rather than decrease potential danger for pedestrians crossing from the south side of River Road. SHA's rationale is reasonable and their experience with the safety and operation of State Roads must be given weight.

IV. RECOMMENDATION

Based on the foregoing analysis, I recommend that Condition No. 15 in the Hearing Examiner's Report and Decision dated September 8, 2015, be removed, that no further safety mitigation is required, and that application CU 15-05, seeking a conditional use for a residential care facility for over 16 persons at 8301 River Road, Bethesda, Maryland, be GRANTED, subject to the remaining conditions in the *Artis I Decision* as follows:

1. The Applicant shall be bound by all of his testimony and exhibits of record, and by the testimony of his witnesses and his representations identified in this report.
2. All development of the property must comply with the approved site plan (Exhibit 111(a)), Landscape Plan (Exhibit 37(c)) and Lighting Plan (Exhibit 37(d)).
3. The facility may operate 24 hours a day, 7 days a week, 365 days a year.

4. The number of employees on-site at any time may not exceed 18 and the total number of employees shall not exceed 38.
5. Employee shifts shall be 18 employees from 6:00 a.m. to 2:00 p.m., 12 employees from 2:00 p.m. to 10:00 p.m., and 6 employees from 10:00 p.m. to 6:00 a.m.
6. The Applicant must construct the bike path shown on the Conditional Use Site Plan (Exhibit 111(a)) prior to issuance of a Use and Occupancy Permit.
7. A five-foot wide pedestrian walking area must be striped on the east/north side of driveway from River Road to the entrance to the parking garage, as shown on the conditional use site plan (Exhibit 111(a)).
8. Any conveyance of a portion of the property to Montgomery County (to be part of Cabin John Stream Valley Park) must not affect any minimum setback or other development standards required by Articles 3, 4, or 6 of the Zoning Ordinance.
9. The Applicant must construct a minimum 3-foot natural surface walking path/pedestrian refuge area at the location shown on the site plan prior to issuance of a use and occupancy permit.
10. The Applicant must post signs on both ends of the driveway warning drivers of the possibility that pedestrians may be using the driveway. The signs must meet standards set in the Manual on Uniform Traffic Control Devices.
11. The Applicant must upgrade the Ride-On bus stop pad site on River Road to be able to accommodate a bus shelter in the future.
12. The Applicant must install a call box with a weather-protected waiting area along the access drive approximately at the point where the park property and the SHA right-of-way meet. The Applicant must provide a shuttle service between the building and the call box. Shuttle service must be provided during visiting hours and when work shifts change.
13. The Applicant must install one bicycle parking rack ("inverted U" rack or similar) in the location as specified on the Conditional Use Site Plan (Exhibit 111(a)).
14. The Applicant must obtain a Permit for Construction on Parkland to widen the portion of the driveway within Cabin Branch Stream Valley Park.
15. No parking for the facility may occur on the shoulder of River Road along the property's frontage. The Applicant shall provide a shuttle service from

an off-site location when visitor parking cannot be accommodated on the subject property; and

16. Prior to issuance of a building permit, the Applicant must obtain all required stormwater management approvals from Montgomery County. If those approvals require modification to the conditional use site plan, the Applicant must apply for an amendment to the site plan.
17. Applicant must obtain and satisfy the requirements of all licenses and permits, including but not limited to building permits and use and occupancy permits, necessary to occupy the conditional use premises and operate the conditional use as granted herein. Applicant shall at all times ensure that the conditional use and premises comply with all applicable codes (including but not limited to building, life safety and handicapped accessibility requirements), regulations, directives and other governmental requirements.

Issued this 16th day of March, 2016.

Respectfully submitted,



Lynn A. Robeson
Hearing Examiner

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Board of Appeals